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Paper No. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MICHAEL J. BADER and JEFFREY J. O'BRIEN

Appeal No. 1998-0119
Application No. 08/466,171

HEARD: JANUARY 15, 2002

Before GARRIS, WARREN, and LIEBERMAN, Administrative Patent Judges.

LIEBERMAN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the examiner's refusal to allow claims 18 through 21, as amended subsequent to the final rejection, which are all the claims in the application.

THE INVENTION

The invention is directed to a method of making a polymer film having a core layer of high density polyethylene. A lower coextensive surface layer comprising a polymer is compounded with particulate crosslinked hydrocarbyl-substituted polysiloxane and silicone oil. The silicone oil is present in an amount effective to reduce the coefficient of friction. The silicone oil spreads to the exposed upper skin layer upon contact. The lower surface layer contains an olefinic polymer selected from ethylene-propylene-butene-1 terpolymer, ethylene-propylene random copolymer, ethylene-propylene block copolymer, isotactic polypropylene, low density polyethylene, very low density polyethylene, linear low density polyethylene, and medium density polyethylene. The upper surface layer may include any of the aforementioned olefinic polymers or may contain polyvinylidene chloride, polyvinyl alcohol or an acrylic polymer.

THE CLAIM

Claim 18 is illustrative of appellants' invention and is reproduced below.

18. A method of making a film which comprises:
 - (1) providing an upper major surface of a core layer (b) comprising a high density polyethylene with a coextensive water-based coating receiving layer (a) formed from a

polymer selected from at least one of the group consisting of ethylene-propylene-butene-1 terpolymer, ethylene-propylene random copolymer, ethylene-propylene block copolymer, isotactic polypropylene, low density polyethylene (LDPE), very low density polyethylene (VLDPE), linear low density polyethylene (LLDPE), medium density polyethylene (MDPE), polyvinylidene chloride (PVDC), polyvinyl alcohol (PVOH) and acrylic, said polymer being compounded with an effective amount of anti-blocking agent, but being substantially devoid of silicone oil;

(2) providing a lower major surface of core layer (b) with a coextensive surface layer (c) formed from a polymer selected from at least one of the group consisting of ethylene-propylene-butene-1 terpolymer, ethylene-propylene random copolymer, ethylene-propylene block copolymer, isotactic polypropylene, low density polyethylene (LDPE), very low density polyethylene (VLDPE), linear low density polyethylene (LLDPE), medium density polyethylene (MDPE), said polymer being compounded with i) an effective amount of a coefficient of friction reducing, anti-blocking amount of anti-blocking agent comprising a particulate cross-linked hydrocarbyl-substituted polysiloxane and ii) a quantity of silicone oil such that a coefficient of friction-reducing amount will be present on an exposed surface of layer (c) as well an exposed surface of layer (a) after mutual contact of said surfaces; and

(3) contacting the exposed surface of layer (c) with the exposed surface of layer (a) such that a coefficient of friction reducing amount of silicone oil is transferred from the exposed surface of layer (c) to the exposed surface of layer (a).

THE REFERENCES OF RECORD

As evidence of obviousness, the examiner relies upon the following references

Keung et al. (Keung) 4,692,379 Sep. 8, 1987

John Wiley & Sons, Inc., Encyclopedia of Polymer Science and Engineering, Vol. 7, pp. 116-125, 1987.

THE REJECTION

Claims 18 through 21 stand rejected under 35 U.S.C. § 103 as being unpatentable over Keung in view of Encyclopedia of Polymer Science and Engineering, Vol. 7, pp. 116-125 (1987).

OPINION

We have carefully considered all of the arguments advanced by appellants and the examiner and agree with appellants that the aforementioned rejection under 35 U.S.C. § 103 is not well founded. Accordingly, we reverse the examiner's rejection.

The Rejection under § 103

"[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a ***prima facie*** case of unpatentability," whether on the grounds of anticipation or obviousness. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

On the record before us, the examiner relies upon a combination of two references to reject the claimed subject matter and establish a ***prima facie*** case of obviousness.

The examiner finds that Keung, "uses a polypropylene core layer instead of a core layer derived from a high density polyethylene." See the Office action mailed July 9, 1996, page 5, Paper No. 3. In addition, the examiner finds that, "[t]he prior art also differs from the present claims in that various anti-blocking agents are disclosed. . . . whereas present claims 18-21 require that layer (c) comprise crosslinked hydrocarbyl-substituted polysiloxane, " anti-blocking agents. Id, page 6. With respect to each of the distinction, the examiner argues that, "HDPE could be used in place of polypropylene in making multilayered films and that, "[p]articulate cross-linked hydrocarbyl-substituted

polysiloxane was known at the time of the invention as evidenced by the fact that appellant uses a commercially available product." See Answer, pages 5 and 7 respectively.

The Encyclopedia of Polymer Science and Engineering article directed to Polymers for Co-extruded Films provides a general discussion regarding the selection of polymers as individual layers of a co-extruded multilayer film. See pages 116 to 119. The discussion therein contains measurements of properties including Oxygen Permeabilities, Table 1, Water Vapor Transmission Rates, Table 2 and Qualitative Degree of Adhesion between Resin, Table 3. There is however, no specific suggestion or motivation to substitute any specific polymer for another polymer in the formation of a multilayer film. Indeed, the article cautions us throughout that, "layer interactions can greatly influence mechanical behavior of composites," page 117, and that, "[u]nfavorable layer interactions can lead to mutual interlayer destruction ie, failure in one layer leads to premature failure in normally ductile layers, causing catastrophic failure of an entire composite." Id. Indeed it is concluded that although calculations may be used to estimate strength, "it is inadequate for predicting layer interactions and ultimate film performance." Id. Accordingly, we conclude that one skilled in the art cannot simply substitute high density polyethylene for polypropylene with a reasonable expectation of success in obtaining a film having

predictable layer interactions and ultimate film performance. In re Vaeck, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991).

As to the utilization of the claimed anti-blocking agent, on the record before us, the only evidence disclosing the claimed hydrocarbyl crosslinked polysiloxane comes from appellants' own specification. We find no disclosure in either of the references of record directed to the specific crosslinked siloxane component. Moreover, the anti-blocking agent is one which needs to be compatible with a high density polyethylene containing multilayer film. There is however, no evidence of record to suggest that hydrocarbyl crosslinked polysiloxanes, even if per se known, would be compatible with the multilayered film composition of the claimed subject matter. Accordingly, the examiner has failed to establish a *prima facie case* of obviousness with respect to the claimed subject matter before us.

It is well settled that the examiner must show reasons that the skilled artisan confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed. We determine that there is no reason, suggestion, or motivation to combine the references in the manner proposed by the examiner. Accordingly, the

examiner has not established a *prima facie* case of obviousness. In re Rouffet, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998).

DECISION

The rejection of claims 18 through 21 under 35 U.S.C. § 103 as being unpatentable over Keung in view of Encyclopedia of Polymer Science and Engineering, Vol. 7, pp. 116-125 (1987) is reversed.

The decision of the examiner is reversed.

REVERSED

BRADLEY R. GARRIS)
Administrative Patent Judge)
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CHARLES F. WARREN) BOARD OF PATENT
Administrative Patent Judge) APPEALS
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) INTERFERENCES
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